



**NORTHERN REGION
FAIRBANKS AREA FORESTRY**

**FOREST LAND USE PLAN AND
PRELIMINARY BEST INTEREST FINDING
FOR
CANYON TOWER SPRUCE**

NC-1345-F

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I. INTRODUCTION

A. Purpose

The purpose of this Forest Land Use Plan (FLUP) is to provide sufficient information for reviewers to ensure that the best interest of the State will be served by the Department of Natural Resources (DNR), Division of Forestry, Fairbanks Area, offering this proposed timber sale. This FLUP deals with site specific considerations of the sale. The boundaries and precise volume of the sale may be refined if and when the sale is developed. Site specific research has been completed on title considerations, land classifications, applicable land management plans, appropriate silvicultural techniques, regulatory and statutory requirements, and physical conditions that apply to the proposed sale area. The proposal is for the harvest of approximately (+/- 10%) 59.2 acres of land that is predicted to yield approximately (+/- 10%) 942 CCF of spruce sawtimber. The sale design may be altered to mitigate potential conflicts. It will be the responsibility of the Forester-In-Charge to ensure that any purchaser of this sale harvests timber per the sale design and sale contract provisions and adheres to Alaska Forest Resources and Practices Act (AFRPA) best management practices.

B. Five-Year Sale Schedule

The general area and timber type that this proposed sale occupies has been shown as a potential sale area in the current Five-Year Schedule of Timber Sales (FYSTS) for Fiscal Years 2014-2018 as required by AS 38.05.113. It has been listed in previous schedules.

C. Location

The proposed sale is located approximately 55 miles southeast of Fairbanks, within the Fairbanks North Star Borough and within the boundaries of the Doyon Region. Coastal Zone Management considerations do not apply. The sale area is located within Sections 15, 21 and 22, Township 7 South Range 6 East, Fairbanks Meridian. The sale area is shown on the attached map and is within the United States Geological Survey 1:63,360 Quadrangle map titled Big Delta B-6. The tract is accessed by driving south on the Richardson Highway. Approximately 4 miles southeast of Birch Lake turn south onto Tower Rd. At roughly .6 miles turn southwest onto existing secondary road and continue for roughly .7 miles where the secondary all-season access road will need to be constructed. In total, about .5 miles of new road construction is required to access the sale. No ice bridges would need to be constructed and the sale is designed for all-season access.

D. Title, Classification and Other Active or Pending Interests

The acquisition for the land upon which the sale is proposed is based on the applicable State case file GS-113. The Patent Numbers are 50-65-0174 (9/3/1964) and 50-85-0478 (7/2/1985), and thus subject to State management authority. There are no title restrictions on the area. The proposed sale area is within Unit 7B of the Tanana Valley State Forest (TVSF). Management intent for this area is more specifically addressed in the TVSF Management Plan. The primary land classification for the area is Forestry per

Classification Order NC-82-065. There are no other special conditions or constraints noted in the TVSF Management Plan for this area.

E. General Timber Sale Program Objectives

1. Develop the State's Renewable Resources

To follow the DNR's constitutional mandate to encourage the development of the State's renewable resources, making them available for maximum use consistent with the public interest. Sustain and promote a healthy, long-term timber industry in the State, through providing a secure source of timber for harvest that produces raw materials for local manufacturing plants when practical while protecting other resources such as fish and wildlife.

2. Improve the State's Economy

To help the State's economy by providing royalties to the State in the form of stumpage receipts, as well as contributions to local economies through wages, purchases, jobs, and business.

3. Improve Forest Health

To improve forest growth and vigor by harvesting mature and or declining stands and replace them with new healthy regenerating stands. The stand replacement will be accomplished while protecting and maintaining other resource values. The actions authorized under this decision will follow the constitutional mandate of sustained yield and shall adhere to multiple use management as described in the Tanana Valley State Forest Management Plan.

4. Improve Wildlife Habitat

Meet the statutory wildlife management objectives for the TVSF (AS 41.17.400(e)) that provides for the economic development of other natural resources while protecting habitat needs of wildlife resources necessary to maintain or enhance public use and economic benefits.

II. LEGAL AUTHORITY

The Division of Forestry is taking this action under the authority of AS 38.05.035 (e) (Best Interest Finding); AS 38.05.110-120 (Alaska Land Act Statutes); 11 AAC 71 (Timber Sale Statutes and Regulations); AS 41.17.010-.950 and 11 AAC 95 (Forest Resources and Practices Statutes and Regulations).

III. ADMINISTRATIVE RECORD

The Division will maintain an administrative record regarding the decision of whether or not to proceed with the action as proposed. This record will be maintained at the DOF's Fairbanks Office filed as NC-1345-F.

IV. SCOPE OF DECISION

This preliminary best interest finding (PBIF) completes step three of a six-step process to design, sell, and administer timber sales. This PBIF covers the sale of approximately 59.2 acres of spruce sawtimber on state land in the Birch Lake area. The following list summarizes the overall process:

Step 1: Regional planning. The Department of Natural Resources (DNR) develops area plans and state forest management plans to designate appropriate uses for state land, classify the land accordingly, and establish management guidelines for multiple use. These plans determine where timber sales are an allowed use, and what other uses must be considered when designing and implementing sales. Subsequent land use decisions must be consistent with the area plans. The area in this PBIF is covered by the Tanana Valley State Forest Management Plan, and the PBIF is consistent with this plan.

Step 2: Five-year Schedule of Timber Sales (AS 38.05.113). A proposed timber sale must appear in at least one of the two Five-year Schedules preceding the sale. The land covered by this PBIF appeared in the Fairbanks Area 5 Year Schedule of Timber Sales FY2014-2018.

Step 3: Best Interest Finding. DOF must adopt a final BIF before selling timber. A best interest finding is the decision document that:

- Establishes the overall area within which the timber sale may occur,
- Determines the amount of timber that will be offered for sale and the duration of the sale,
- Sets the overall harvest and reforestation strategy for the sale area,
- Determines whether the sale proposal complies with the Constitutional requirement to manage for sustained yield by evaluating the amount of timber in the sale and the annual allowable cut for the affected area,
- Selects the appropriate method of sale (i.e., competitive or negotiated sale), and
- Determines the appraisal method that will be used to determine the sale price.

DOF will issue a final BIF covering the decision to sell approximately 59.2 acres of spruce sawtimber from state lands within the Birch Lake area in a competitive sale for commercial use. DOF will consider all written comments received during the 30-day review period. A person affected by the final decision who provided timely written comment or public hearing testimony on the preliminary decision may appeal it, in accordance with 11 AAC 02.

Step 4: Forest Land Use Plans (AS 38.05.112). Prior to authorizing harvest of timber on any area greater than 10 acres, the DOF must adopt a site-specific Forest Land Use Plan (FLUP) for the harvest area. DOF is issuing this draft FLUP concurrently with the PBIF and will adopt the final FLUP following review of comments. FLUPs specify the site, size, timing, and harvest methods for harvest units within the sale area. FLUPs also address site-specific requirements for access construction and maintenance, reforestation, and multiple use management. FLUPs are based on additional field work, agency and community consultation, and site-specific analyses by the DOF, and are subject to public and agency review.

Step 5: Timber sales and contracts. Following adoption of the final BIF, and completion of the FLUP, DOF will offer the timber for sale by auctioning competitive sales and/or negotiating some sales with purchasers. The Division will sign a contract with the winning

bidder for each sale. The contract will include stipulations to ensure compliance with the best interest finding, FLUP, and statutory requirements.

Step 6: Sale administration. DOF will administer the timber sale and conduct field inspections to ensure compliance with the final BIF, FLUP, timber sale contract, and applicable laws, including the Alaska Forest Resources and Practices Act and regulations (AS 41.17 and 11 AAC 95), and forest management statutes and regulations in AS 38.05 and 11 AAC 71.

V. DISCUSSION OF ISSUES

A. Physical Characteristic of the Sale Area

1. Topography

This site is located west of Canyon Creek and consists of south and southeast facing slopes, uneven and with multiple hogbacks. Elevation of the sale area ranges from 1150 to 1750 feet. Slopes vary, but average 25-30% with the steepest being on the western half of the sale.

2. Soils

Soils in the sale area consist of silt loams. These are shallow and underlain by fractured granite and schist. Given the steep terrain and soil characteristics careful planning will be made as to location of skid trails and water bars and culverts will be used when necessary along access route and skid trails.

3. Waterbodies

The three predominant water bodies in the vicinity are the two low volume, seasonal, unnamed creeks adjacent to the unit (both classified as “other surface waters”) and the Tanana River (Type IIIB). The seasonal creeks merge just downstream of the unit and then drain into the Tanana River more than a mile and a half down stream from the sale. The proposed all season access crossing is at a right angle. Upstream of the seasonal streams confluence the timber sale is anticipated to have minimal impact on water quality, due to the location of the proposed units in relationship to surface waterbodies. The sale area presents no obstacles that would prevent implementation of the best management practices of the AFRPA to maintain water quality.

4. Stand Conditions

The timber stand and harvest unit consist of even-aged white spruce more than 200 years old mixed with smaller pockets of birch and aspen. Site productivity is moderate to low for the Interior but on par with other stands in this general area. Spruce health is generally fair though some butt rot, and sweep are evident. Top growth is essential and non existent and the stand is beginning to decline in quality.

Within the proposed sale area alder is common and covers about 50% of the sale area. The moss depth averages 3-5 inches. There is an estimated 15% defect in the white spruce. The white spruce sawtimber component of the stand ≥ 9 ” diameter breast height (dbh) has about 44 trees/acre, an average dbh of 12” and an average height of 68’. Basal area per acre is 77.5 square feet/acre. There are very few trees less than

9" dbh. Those that are within the pole class of 5" to 9" dbh are mostly suppressed and may be as old as the sawtimber trees.

B. Historic and Current Land Use

The historic uses of land in the general area have been logging, firewood cutting, dog mushing, mining, hunting and trapping. The current uses of the area are logging, recreation (primarily snow-machining and ATV riding), hunting and trapping.

C. Wildlife Habitat

Wildlife typical of the interior are found here and during ground reconnaissance tracks and sign of squirrels and moose were observed. There are no known raptor nests within the proposed sale area. Treatments proposed for this stand are projected to enhance habitat conditions for ruffed grouse, moose, voles, hares, and ultimately, lynx, marten and fox. In the past, Alaska Department of Fish and Game have recommended managing for as much diversity as possible when prescribing harvest unit size, shape and position to mimic the results of wildfire or other stand replacement phases such as insect outbreaks or flood events. To accomplish these objectives clumped snags will be retained to provide late-successional wildlife habitat for hole nesting birds, woodpeckers, small mammals, and other species requiring perching habitat. Units will be laid out with uneven edges, along and between timber types. This will create varied edge effect beneficial to many wildlife species.

D. Fisheries and Water Quality

Best management practices will be implemented to ensure water quality standards in all water courses. No critical habitat was listed for this area in the TVSF Management Plan, and none have been identified in the ground recon. Wildlife typical to the interior is found here. Moose and black bear are relatively abundant in the area.

E. Subsistence

The tract has not been designated as a subsistence zone. The proposed sale of timber is anticipated to have no deleterious effects on subsistence activities. Subsistence activities of fishing, trapping, hunting and gathering of berries and other non timber forest products may occur on State owned lands.

F. Recreation and Tourism

Recreation use of this area is moderate, but not inconsistent with this timber sale as proposed. The most common recreational activity in the area is seasonal and in the form of ATV riding and snow-machining. Hunting for moose, grouse, and bear and trapping are popular in the area as well.

The Division of Forestry is not aware of any commercial tourism operations within or near the proposed sale area. There are several trails in the proposed timber sale area that have been opened up and maintained in various states over a number of years. Attempts will be made during logging operations to keep these trails passable through the unit.

If any existing trail use runs along the proposed route, attempts will be made to construct the road parallel to these trails. Where existing winter roads are needed for access, sufficient snow cover will be left on the road to enable winter recreational use.

G. Scenic Resources

Visual impact from the sale will be low. The Richardson Highway, a major transportation route is far enough away and at low enough elevation so as not to be in direct eyesight of the sale.

H. Cultural Resources

The TVSF Management Plan does not list any historic cultural or archaeological sites in the vicinity of the proposed harvest. The State Office of History and Archaeology (OHA) list no sites on its inventory and during their review of the FY 2014-2018 FYSTS had no comment on this sale. During the course of activities associated with this timber sale, cultural and/or paleontological resources may be inadvertently discovered. Should such discovery occur, these sites shall be protected from further disturbance and OHA contacted immediately so that compliance with state laws governing cultural resources may begin.

Under the Alaska Historic Preservation Act (AS 41.35), all burials on state land are protected. If burials or human remains are found, all land altering activities that would disturb the burial or remains shall cease and measures taken to protect it in place. OHA and a law enforcement officer will be notified immediately to ensure that proper procedures for dealing with human remains are followed.

I. Sustained Yield and Allowable Cut

The Alaska Forest Resources and Practices Act (AS 41.17.060 (c)) and Article VIII Sec. 4 of the State Constitution require that the State forest land be managed on a sustained yield basis. Sustained yield is defined in the Alaska Forest Resources and Practices Act (AS 41.17.950(25)):

“Sustained Yield” means the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of forest land and water without significant impairment of the productivity of the land and water, but does not require that timber be harvested in a non-declining yield basis over a rotation period.

The Annual Allowable Cut (AAC) is the amount that can be harvested from forest land managed for forestry purposes in a year under sustained yield management. The AAC in the Fairbanks Area is outlined in the publication Timber Inventory of State Forest Lands in the Tanana Valley (Hanson, 2013). This sale complies with sustained yield/allowable cut principles outlined in the Fairbanks Area Five-Year Schedule of Timber Sales for FY 2014-2018. The AAC for the Fairbanks Management Area is approximately 4,606 acres. The AAC will not be exceeded for this proposed sale.

J. Silvicultural Prescription

1. Stand Silvics

The merchantable tree species here are white spruce, birch, aspen, and balsam poplar. Data and research on regeneration and growth characteristics of these species are compiled within the Resource Analysis of the Tanana Valley State Forest (TVSF) Management Plan. The harvest and reforestations systems available in Interior Alaska are also reviewed and listed in the Resource Analysis. The results of the public and agency discussions for harvest and reforestation are discussed in the TVSF Management Plan. Silvicultural harvest systems that facilitate even-aged (natural) management are generally preferred. They mimic the ecological impact of wildfire and other disturbances and result in the greatest increase in site productivity. Even-aged management is normally accomplished through clear-cuts, patch cuts, and heavy partial cuts (such as seed tree or shelterwood systems) which open up the site to maximum solar gain. This management system results in the greatest production of both young hardwood, that is important to wildlife, and the spruce understory which is valuable years later as timber. Even-aged management techniques are utilized to provide young, vigorously growing stands in juxtaposition to older, undisturbed stands. Such placement of harvest units can optimize natural seeding and the edge effect.

2. Specific Management Objectives

Attempt to create a diversity of forest age classes in the area and improve forest vigor. Open up the stand to sunlight and create soil warming to increase site productivity. Utilize the current commercial value of this timber stand before disease results in further loss of timber. Attempt to remove all of the spruce greater than four inches and allow the stand to return to production. Those trees that are younger, rather than just smaller, may benefit from release. Maintain or enhance the current level of recreational use in the area. Meet the statutory wildlife management objective for within the TVSF (AS 41.17.400(e)). Return the site to a productive, naturally even-aged, diverse mixed-species stand at an equal or greater basal area than currently exists. It is reasonable to assume that these objectives will be realized under the recommended prescription with some supplemental planting of white spruce if necessary.

3. Harvest Methods

The sale will be harvested through a clear-cut silvicultural system of all white spruce nine inches and greater. Spruce less than nine inches, but greater than four inches will also be required to be cut and decked near the lower portions of the sale. Snags, birch and aspen will not be cut. Residual trees will be protected from damage during harvest operations. Harvesting will be by the whole tree yarding system. Slash disposal at the landings will be by burning or by salvage for fuelwood use.

4. Regeneration

Regeneration of white spruce occurs only from seeds. White spruce trees generally produce some level of seed crop every three to five years and large seed crops every five to seven years. During field reconnaissance in June 2014 a very good cone crop was present. This seed source will likely assist in successful natural regeneration. The adjacent uncut spruce in this stand is expected to provide a significant seed

source. Residual birch and aspen will provide additional seedfall to supplement stocking of spruce. A regeneration survey will be conducted three years after any harvest. If the survey indicates inadequately stocked areas greater than ½ acre and totaling 6 acres then hand planting of white spruce seedlings will be performed on non-stocked areas.

K. Transportation

The planned access to the proposed sale is all-season. The timber sale is accessed by driving south on the Richardson Highway. Approximately 4 miles southeast of Birch Lake turn south onto Tower Rd. At roughly .6 miles turn southwest onto existing secondary road and continue for roughly .7 miles where the secondary all-season access road will need to be constructed. In total, about .5 miles of new road construction is required to access the sale. A culvert will be required to be installed at the seasonal creek crossing point. No ice bridges would need to be constructed and the sale is designed for all-season access. The road will be maintained to the standards set out in the AFRPA.

L. Erosion

There are two soil erosion concerns: surface erosion and mass wasting of soil and debris. Road construction and poor maintenance of roads primarily causes surface erosion. To avoid erosion, debris will be placed back onto skid trails and water bars installed if necessary. Harvesting will be suspended during periods of thawing soil conditions to assure there is minimal soil disturbance. The location of skid trails will optimize skidding distances and provide for adequate landing areas. The other aspect of erosion (mass wasting and debris avalanches) normally occurs on slopes of more than 70 percent and therefore is not a concern in this level area.

M. Mining

This sub-unit of the TVSF has high mineral potential. More detailed information on subsurface resource use is found in the TVSF Management Plan. Other than providing access, and sharing some of the same access roads, this sale will have no impact on the potential mining resources or mining activity in this area.

N. Materials

No non-native rock materials will be required for the construction of access roads.

O. Economics

In addition to generating royalties to the State's general fund, the proposed sale will create economic benefits to the Fairbanks North Star Borough, the Community of Nenana, and to other locations in Alaska. The Borough business community will receive direct economic benefits from providing support services for the operators through sales of fuel, food, housing, medical and miscellaneous supplies. The sale is expected to benefit the local economy by providing jobs. The residents of the Borough will receive an indirect benefit through taxes paid to cities and the Borough by the operator and employees during the course of the timber harvest operation.

The sale is expected to benefit the local economy by providing jobs. It will have a positive impact on local employment by generating significant man-hours of work associated with the harvest and transportation of wood products from this sale. Additionally the public may benefit from access to additional personal use fuel wood areas.

VI. MARKET CONDITIONS

Interior Alaska has a growing demand for biomass and firewood and a sustainable market for saw timber. Heating oil continues to be more costly in the interior than the national average therefore residents are looking for an alternative and the only affordable one is wood. Local businesses are currently producing wood pellets as an alternative to traditional firewood. This market addresses an ongoing air quality issue in the Fairbanks area because these manufactured pellets produce almost no emissions. As this market continues to grow, the demand for material will increase. Other businesses are also looking into the use of biomass as a feedstock for producing electricity and heating alternatives in rural Alaska.

With improvements in wood stove technology for reducing emissions, firewood is also a viable alternative to high cost heating oil. The demand for firewood has steadily increased in the past few years and will likely continue to increase. Local suppliers of firewood continue to have a demand for accessible timber sales to deliver their product.

Residential construction and commercial operations throughout Alaska still need sawn products to support their operations. Local businesses that produce these products continue to pay for the delivered material.

These three markets create jobs in the forest products industry. Loggers, log truck drivers, commercial firewood cutters and mill workers all benefit from a sustainable timber market. This sale will provide the material needed to sustain these industries. As the economy continues to rebound there will be more demand for the products that this sector of the labor force provides.

VII. ALTERNATIVE ACTIONS

After a review of the material and information discussed above, the following alternatives have been considered:

1. To continue the sale(s) as proposed.

This alternative meets the objectives of the Five-Year Schedule of Timber Sales and DNR'S constitutional mandate. It also meets the silvicultural objective of improving forest vigor, provides for a value-added end product and creates additional jobs in Alaska due to the combination of road building, logging, and trucking. This alternative also complies with the management objectives of the TVSF Management Plan for Unit 7B which supports the issuance of small sized timber sales, continued

recreational use and the consideration of private landowners as they relate to the type and location of roads.

2. **To modify the sale(s) by making them smaller or larger.**

The proposed sale unit is a logical setting for typical commercial logging equipment in Interior Alaska. The size of the sale is designed to be large enough to be economically viable considering access development and mobilization costs and distance to processing facilities. Sales of this size are appropriately balanced to maintain other resource values as well as provide economic benefits to the Tanana Valley.

3. **Defer the sale of this timber to a later date.**

Deferring harvest to a later date would fail to meet many of the objectives of the sale program. One of the main objectives is to make State-owned timber consistently available to the timber industry.

4. **Do not offer this timber for sale.**

This alternative would result in not meeting any of the objectives outlined for this management action. Utilization of the forest resource would not be achieved. There would be no significant contribution to the State and local economies. This alternative would delay the management objectives planned for the area, deny making a source of raw materials available to the local wood products industry, and would delay the harvest of mature trees, prior to the onset of disease or insect infestation.

VIII. PUBLIC NOTICE

The preliminary best interest finding and decision are to be publicly noticed in compliance with AS 38.05.945. Notice will be posted on the Alaska Online Public Notice System as well as both physical and electronic mailing lists.

IX. PRELIMINARY FINDING AND DECISION

After due consideration of all pertinent information and alternatives, the DNR has reached the following preliminary decision: To offer for sale approximately 59.2 acres of spruce to provide sawtimber as proposed in Alternative 1. The DOF finds that this preliminary decision satisfies the objectives stated in this document and it is in the best interest of the State to proceed with this action under its authority of AS 38.05.035(e) (Powers and Duties of the Director) & AS 38.05.110-120; 11 AAC 71 (Timber Sale Statutes and Regulations; and AS 41.17.010-.950 and 11 AAC 95 (Forest Resources and Practices Statutes and Regulations).

Prepared and recommended by: Kevin Meany, Resource Management Forester

X. SIGNATURE

Kathryn Pyne, Fairbanks Area Forester
Alaska Division of Forestry

Date

MAP

